

What Is Claimed Is:

1 1. A molded plastic component having an integrally formed
2 badge formed in an injection mold cavity having a shape defining the desired
3 plastic component, comprising:

4 film sheet having top and bottom surfaces defining the molded
5 plastic component and badge, the film sheet being selected from the group
6 consisting of polyester, polyurethane and polycarbonate, wherein the film sheet is
7 vacuum molded in a mold cavity to obtain a pre-form, the pre-form is placed in the
8 mold cavity; and

9 a thermoplastic elastomer injected into the mold cavity of the
10 injection mold to form a structural carrier bonded to the bottom surface of the pre-
11 form to form the molded plastic component.

1 2. The plastic component of claim 1, wherein the thermoplastic
2 elastomer is selected from the group consisting essentially of a thermoplastic
3 polyolefin, thermoplastic urethane, polyester, polycarbonate, acrylonitrile/
4 butadiene/styrene, polypropylene, a mixture of acrylonitrile/butadiene/styrene and
5 polycarbonate, and mixtures thereof.

1 3. The plastic component of claim 1, wherein the film sheet has
2 a total thickness of 0.2 mils.

1 4. A method of manufacturing a molded plastic badge,
2 comprising:

3 providing a film sheet having top and bottom surfaces defining a
4 badge, the film sheet being selected from the group consisting of polyester,
5 polyurethane and polycarbonate;

6 vacuum molding the film sheet in a mold cavity to obtain a pre-
7 form;

8 placing the pre-form in a mold cavity of an injection mold having
9 a shape defining the desired plastic component; and

10 injecting a thermoplastic elastomer into the mold cavity of the
11 injection mold to generate a structural carrier for the pre-form, the generation of
12 the structural carrier creating sufficient pressure and heat to bond the structural
13 carrier to the bottom surface of the pre-form to form the molded laminate plastic
14 badge.

1 5. The method of claim 4, wherein the thermoplastic elastomer
2 is selected from the group consisting essentially of a thermoplastic polyolefin,
3 thermoplastic urethane, polyester, polycarbonate, acrylonitrile/ butadiene/styrene,
4 polypropylene, a mixture of acrylonitrile/butadiene/styrene and polycarbonate, and
5 mixtures thereof.

1 6. The method of claim 4, wherein the step of injecting a
2 thermoplastic elastomer into the mold cavity occurs at a temperature of 420°F and
3 at a pressure of 50 psi to 15,000 psi.

1 7. The method of claim 4, further comprising the step of
2 cutting the pre-form prior to the step of placing.

1 8. The method of claim 4, wherein the structural carrier has a
2 flexural modulus in the range of 15,000 to 400,000 psi.

1 9. The method of claim 4, wherein the structural carrier has a
2 durometer in the range of 15 Shore D to 100 Shore D.

1 10. The method of claim 4, wherein the film sheet has a total
2 thickness of 0.2 mils.

1 11. A method of manufacturing a molded laminate automotive
2 component with integral badge portion, comprising:

3 inserting a film sheet into a vacuum forming station to form the film
4 sheet into a predetermined automotive component shape to create a formed film
5 sheet having top and bottom surfaces, the film sheet being selected from the group
6 consisting of polyester, polyurethane and polycarbonate;

7 placing the formed film sheet in an injection mold cavity having a
8 shape defining the automotive component with integral badge portion;

9 injecting a thermoplastic elastomer into the injection mold cavity,
10 such that the thermoplastic elastomer is in mating contact with the bottom surface
11 of the formed film sheet, to generate a structural carrier for the formed film sheet,
12 the generation of the structural carrier creating sufficient pressure and heat to bond
13 the structural carrier to the bottom surface of the formed film sheet to form the
14 molded laminate automotive component with integral badge portion.

1 12. A method of manufacturing a molded plastic component,
2 comprising:

3 providing a film sheet having top and bottom surfaces, the film
4 sheet being selected from the group consisting of polyester, polyurethane and
5 polycarbonate;

6 vacuum molding the film sheet in a mold cavity to obtain a pre-
7 form;

8 placing the pre-form in a mold cavity of an injection mold having
9 a shape defining the desired plastic component; and

10 injecting a thermoplastic elastomer into the mold cavity of the
11 injection mold to generate a structural carrier for the pre-form, the generation of

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the structural carrier creating sufficient pressure and heat to bond the structural carrier to the bottom surface of the pre-form to form the molded laminate plastic component wherein the film sheet is coated with a layer of acrylic color and polyvinylidene fluoride and an acrylic clear coat layer.

1 13. The method of claim 12, wherein the polyvinylidene fluoride
2 comprises more than 50% of the total thickness of the film sheet.

1 14. The method of claim 12, wherein the thermoplastic
2 elastomer is selected from the group consisting of a thermoplastic polyolefin,
3 thermoplastic urethane, polyester, polycarbonate, acrylonitrile/ butadiene/styrene,
4 polypropylene, a mixture of acrylonitrile/butadiene/styrene and polycarbonate, and
5 mixtures thereof.

1 15. The method of claim 12, wherein the step of injecting a
2 thermoplastic elastomer into the mold cavity occurs at a temperature of 420°F and
3 at a pressure of 50 psi to 15,000 psi.

1 16. The method of claim 12, further comprising the step of
2 cutting the pre-form prior to the step of placing.

1 17. The method of claim 12, wherein the structural carrier has
2 a flexural modulus in the range of 15,000 to 400,000 psi.

1 18. The method of claim 12, wherein the structural carrier has
2 a durometer in the range of 15 Shore D to 100 Shore D.

1 19. The method of claim 12, wherein the film sheet has a total
2 thickness of 0.2 mils.

1 20. A method of manufacturing a molded laminate automotive
2 component and badge assembly, comprising:

3 inserting a film sheet into a vacuum forming station to form the film
4 sheet into a predetermined shape corresponding to the component and badge
5 assembly to create a formed film sheet having top and bottom surfaces, the film
6 sheet being selected from the group consisting of polyester, polyurethane and
7 polycarbonate;

8 placing the formed film sheet in a mold cavity of an injection mold
9 having a shape defining the component and badge assembly;

10 injecting a thermoplastic elastomer into the mold cavity of the
11 injection mold, such that the thermoplastic elastomer is in mating contact with the
12 bottom surface of the formed film sheet, to generate a structural carrier for the
13 formed film sheet, the generation of the structural carrier creating sufficient
14 pressure and heat to bond the structural carrier to the bottom surface of the formed
15 film sheet to form the molded laminate component and badge assembly wherein
16 the film sheet is coated with a layer of acrylic color and polyvinylidene fluoride
17 and an acrylic clear coat layer.

1 21. The method of claim 20, wherein the polyvinylidene fluoride
2 comprises more than 50% of the total thickness of the film sheet.

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